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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,671	02/06/2001	Masaru Honda	Q62961	2529

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EXAMINER
HON, SOW FUN

ART UNIT	PAPER NUMBER
1772	8

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-8

Office Action Summary	Application No.	Applicant(s)	
	09/776,671	HONDA ET AL.	
	Examiner	Art Unit	
	Sow-Fun Hon	1772	

-- The MAILING DATE of this c mmunication appears n the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 01/02/03 have been accepted. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Response to Amendment

Withdrawn Rejections

2. The 112,2nd paragraph rejections of claims 1-16 in Paper # 6 (mailed 10/01/02) have been withdrawn due to Applicant's amendment and clarification in Paper # 7 (filed 01/02/03). Applicant has affirmed the broad interpretation of the order of the dichroic polarizer, reflective polarizer and transflector wherein the dichroic polarizer is always at one end, and the reflective polarizer can either be in the middle or at the other end of the three components, in that order.

3. The 102(b) and 103(a) rejections of claims 1-16 over Weber et al. as the primary reference in Paper # 6 (mailed 10/01/02) have been withdrawn due to Applicant's clarification in Paper # 7 (filed 01/02/03) that unlike the switchable transflector of Weber et al., the transflector of the present application does not comprise a reflective polarizer.

New Rejections

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-8, 12-14, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Perregaux et al.

Weber et al. teaches a transflective polarizer comprising a dichroic polarizer, a reflective polarizer and a transflector (column 9, lines 45-65, column 10, lines 1-10 and column 12, lines 1-30). Weber et al. teaches that the polarization orientation of the dichroic (absorptive) polarizer is parallel to the transmission polarization orientation of the reflective polarizer on which it is placed (column 9, lines 45-65), thus a transmission axis of the dichroic polarizer and a transmission axis of the reflective polarizer are directed to the same direction.

Weber et al. teaches that the dichroic polarizer is an iodine-based or dye-based polarizing film and can be laminated on (included in the skin layer of) the reflective polarizer (column 10, lines 1-10). A light diffusive layer is laminated on at least one surface of the dichroic polarizer (column 11, lines 40-68 and column 12, lines 1-5). The reflective polarizer is a multi-layer laminate composed of two or more kinds of polymer films (column 10, lines 1-10). The birefringent film in the reflective polarizer has a quarter wavelength, and may have cholesteric (cholesteric polarizer) liquid crystal dispersed as droplets (polymer-dispersed liquid crystal) (column 9, lines 30-45, column 15, line 60-68 and column 7, lines 50-60). Since Weber et al. does not teach any in-phase retardation value of the transflector, it appears to be zero. Either the fast or the slow axis of the transflector and the dichroic polarizer are directed to the same direction since Weber et al. does not specify the preference.

Weber et al. teaches different embodiments of the LCD (liquid crystal display device), one being a light transmitting plate (light guide), light source (lamp) and a reflector (reflective housing) in this order. Another embodiment has a light source, a liquid crystal cell and a

dichroic (absorptive) polarizer on the very top (column 11, lines 40-65). Weber et al. teaches a light diffusive layer laminated on at least one surface of the dichroic polarizer (column 12, lines 1-5).

Weber et al., however, fails to teach a transflector which does not comprise a reflective polarizer.

Perregaux et al. teaches a transflector which contains a matrix of polystyrene to which is added scaly reflective particles of mica coated with metal oxide (titanium dioxide) and particles of polyethylene (column 4, lines 20-35) placed between an LCD and a light source. Perregaux et al. teaches that the transflector enables the very exact setting of the ratio of transmission to reflection by the suitable selection of the type and the amount of the particles (first filling material) (column 2, lines 45-65).

Because Perregaux et al. teaches that the transflector enables the very exact setting of the ratio of transmission to reflection, and Weber et al. teaches that the reflective polarizer is a multi-layer laminate composed of two or more kinds of polymer films with the dichroic polarizer laminated onto one side, and the transflector is positioned on the other side, it would have been obvious to one of ordinary skill in the art to have laminated the transflector of Perregaux et al. onto the other side of the reflective polarizer in the invention of Weber et al. in order to obtain a transflective polarizer with the desired setting of the ratio of transmission to reflection.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Perregaux et al. as applied to claims 1-8, 12-14, 16 above, and further in view of Ketchpel.

Weber et al. has been discussed above, and teaches a switchable transflector, but fails to teach the transflector as a film of metal on a polymer film.

Ketchpel teaches a transflector which is a metal film deposited on a polymer film (column 2, lines 10-40), and that the transflector permits reflection of substantial percentages of incident light and transmission of substantial percentages of back light (column 4, lines 55-60).

Because Ketchpel teaches that the transflector permits reflection of substantial percentages of incident light and transmission of substantial percentages of back light, it would have been obvious to one of ordinary skill in the art to have used the transflector of Ketchpel as the transflector in the invention of Weber et al. in order to obtain a transflective liquid crystal display with high reflection of incident light and high transmission of back light.

7. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Perregaux et al. as applied to claims 1-8, 12-14, 16 above, and further in view of Cobb, Jr. et al.

Weber et al. has been discussed above, and teaches a switchable transflector, but fails to teach the transflector as having a pressure sensitive adhesive matrix.

Cobb, Jr. et al. teaches a transflective liquid crystal display (column 1, lines 15-30). Cobb et al. teaches a diffusing layer on a reflective polarizer, in the form of an adhesive made from droplets dispersed in a pressure sensitive adhesive (column 3, lines 35-68), composed of more than two different polymers, acrylic/styrene particles in a polyacrylate matrix. Cobb, Jr. et al. teaches that the diffusing adhesive performs the dual function of diffusion and adhesion (column 3, lines 25-65 and column 4, lines 1-10).

Because Cobb, Jr. et al. teaches that the diffusing adhesive performs the dual function of diffusion and adhesion, it would have been obvious to one of ordinary skill in the art to have used the teaching of Cobb et al. to apply the transflector of Perregaux et al. in the form of a pressure sensitive adhesive to the multilaminate reflective polarizer in the invention of Weber et al. in order to obtain a transflective polarizer whereby the transflector performs the dual function of transflection and interlaminar adhesion.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Perregaux et al. as applied to claims 1-8, 12-14, 16 above, and further in view of Inoue et al.

Weber et al. has been discussed above, and teaches an LCD with a switchable transflector, but fails to teach a phase retarder in the LCD.

Inoue et al. teaches a transflective liquid crystal device with a transflector (column 2, lines 40-50). Inoue et al. teaches that a phase retarder (anisotropic substance) is placed between the liquid crystal cell and the polarizer (polarizing plate) (column 3, lines 1-50) which can be dichroic (absorptive) (column 18, lines 35-60) in order to obtain the desired retardation effect for multiple color display (column 1, lines 55-65).

Inoue et al. demonstrates that it would have been obvious to one of ordinary skill in the art to have placed a phase retarder in the LCD in the invention of Weber et al. in order to obtain a transflective liquid crystal display with the desired retardation effect for multiple color display.

Response to Arguments

9. Applicant's arguments with respect to claims 1- have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH

Sow-Fun Hon

03/06/03

HAROLD PYON
SUPERVISORY PATENT EXAMINER 3/7/03